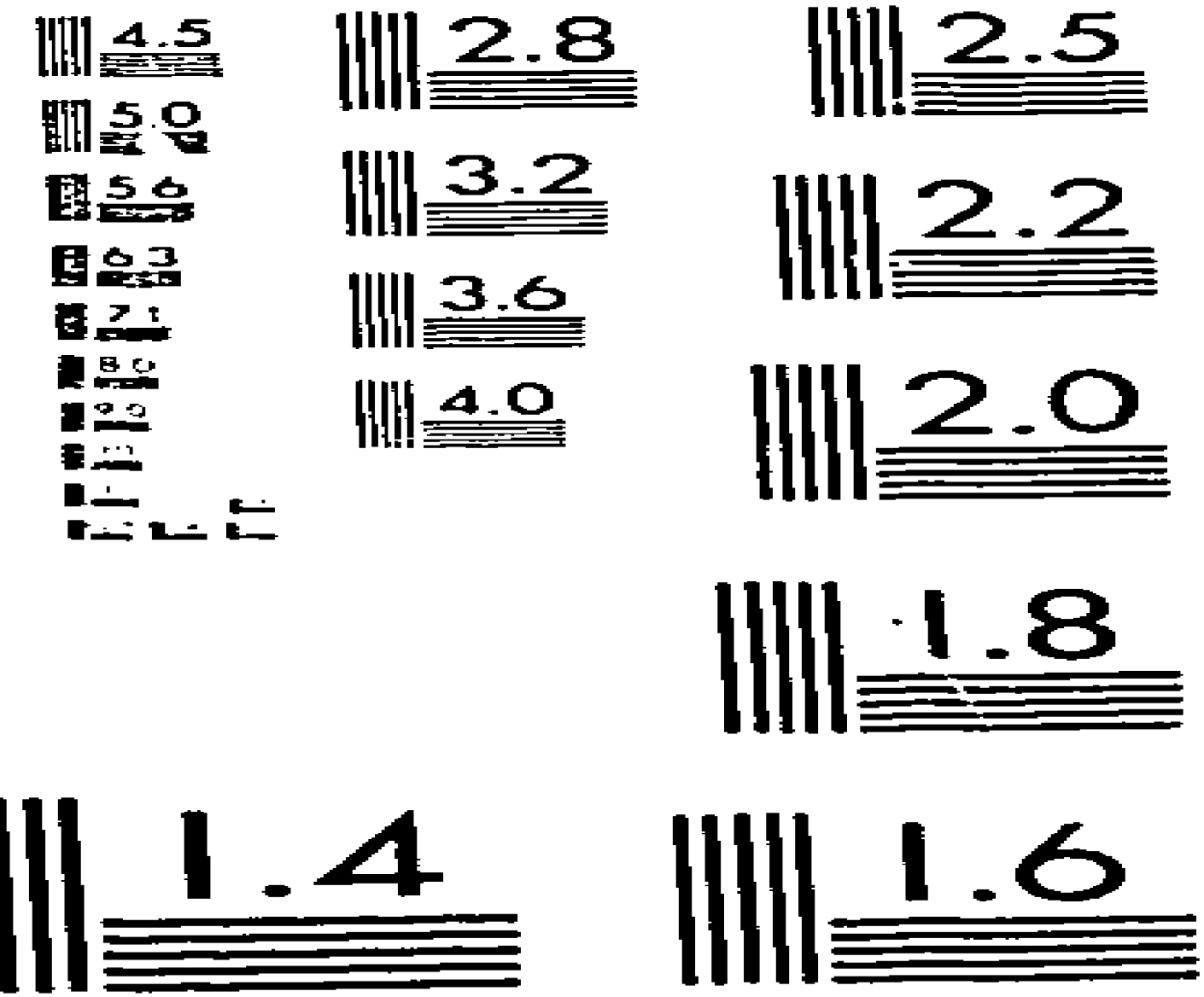

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ABSTRACT

Based on structured interviews with 92 faculty members in ten departments at the University of Utah, a categorized list of innovative teaching practices was compiled. The list was separated into two major divisions. The first division deals with in-class learning materials and activities. Within this grouping there are 15 categories: discussion techniques, case study approaches, grading techniques, mastery learning, role playing, instructional games, emphasis on practical applications of subject matter, experimental approaches, teacher-prepared learning materials, team teaching, learning teams, developing the student's evaluation skills, structuring student creativity, motivation techniques, and multimedia approaches. The second major division--learning experiences provided largely outside the classroom--includes three categories: developing the student's research skills, "immersion" techniques, and field work. Each practice described is identified by instructor and course. (RT)

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SURVEY OF EXEMPLARY INSTRUCTIONAL PRACTICES

When the University of Utah's Center to Improve Learning and Instruction was established in July 1970, the Center's primary mission was defined as developing and disseminating information that would result in more productive instruction and more meaningful learning at the University.

Accordingly, one of the initial projects of the Center's staff during the 1970-71 year involved a comprehensive effort to identify and describe specific exemplary teaching practices of instructors (i.e., professors, instructors, teaching assistants) on the University of Utah campus. Such a survey is consistent with the belief that there are many diverse but equally effective methods of instruction currently in use on the campus, and that it is important to maintain this diversity.

The major outcome of the survey is a list of exemplary teaching practices that have been categorized, described, and identified as to course and instructor. Projected uses of the list include (1) dissemination to all faculty members so that specific techniques may be shared, (2) provision of a basis for identifying problems for further investigation, and (3) provision of a basis for identifying projects that might be extended with University or outside support. The present report is part of the dissemination phase of the Exemplary Instructional Practices Project. The report is limited to those departments and courses responding to the first round of requests and interviews. See the final paragraph in this report for information on participation in follow-up activities.

Obtaining Participant Involvement

In December 1970 an initial memo was sent to the 63 department chairmen at the University. The memo explained the Center's intent to gather information about the particular innovations or exemplary practices of each department, and subsequently to provide this information (by means of epr and other channels) to the rest of the University community. Department chairmen were asked to respond by indicating their preferences for methods of obtaining such information from the members of their own departments.

Of the 30 department chairmen who replied to the initial memo, the majority preferred that the Center obtain information on exemplary teaching practices by contacting faculty members directly on an individual basis rather than having departments serve in an information collection capacity. The method chosen by the Center to implement this preference was the use of graduate student interviewers.

Therefore, about a month later (January 1971) a second memo was sent to those department chairmen who had indicated their willingness to participate in the survey. The second memo requested the cooperating chairmen to appoint one graduate student per department to carry out the interviews, for which the student would be paid $3.00 per interview upon turning in the written results to the Center. It was estimated that conducting and writing up each interview would take approximately 45 minutes and that only a sample of instructors in each department would be interviewed. In cases in which department chairmen did not respond to telephone follow-ups by selecting student interviewers, appropriate student assistants were appointed by the Center.

The student interviewers were oriented to their task at one of two identical meetings on February 16 and 17. They were supplied with multiple copies of a memo addressed to "University Instructional Staff" and asked to distribute it within their own departments. The memo (1) explained the survey project, (2) asked faculty members to indicate whether or not they wished to be interviewed, and (3) if they wished to participate, requested information regarding convenient interview times and locations. Other activities at the orientation meetings included studying the interview process by means of role-playing and becoming familiar with the interview format.

The Survey Instrument

A survey instrument was developed for use during the interviews so that certain basic questions could consistently be asked. Blanks were provided for the interviewer's name, the date, the professors's name, and the course number.

Following this, the body of the instrument contained the following four items:

(1) Briefly describe the exemplary instructional approach you use.

(2) What part of your approach is critical in introducing the innovation? In getting acceptance for it?

(3) What significant changes are taking place among the students in your class as a result of the use of this approach?

(4) We would like to share this approach with other faculty both at Utah and other institutions. Could you give us in written form an example of it, a more detailed plan or description of the innovation, or a sample of student performance for our files? Attach the example or description to this form.

Following these items, additional space was provided to allow each interviewer to use his own judgment as to the direction the interview might profitably take after the first four questions were covered.

Results

A total of 106 interview forms were completed by interviewing 92 faculty members in ten departments. (Because each interview form was designed to report information on single courses only, some interviewers completed more than one form per interviewee.) Interview results were obtained with greatest frequency in the Departments of Psychology (31) and English (25).

Looking at the distribution of results from the standpoint of the academic ranks represented, 20 forms report the exemplary teaching practices of professors, 22 of associate professors, 26 of assistant professors, 8 of instructors, and 30 of teaching assistants.

In spite of the open-ended design of the survey instrument, in actual practice the written interview results most often did not go beyond the four basic survey questions. In fact, additional prepared materials (the "answer" to Question 4) were appended in only 25 (or approximately one-fourth) of the responses. Of these, the majority of the attachments were provided by faculty members in the Departments of Psychology (11 times) and Special Education (8 times).

In addition to the results obtained by means of interviews, supplementary information on exemplary practices in 24 other courses was gathered during the preparation of the four 1970-71 issues of **epr**. For reporting purposes, this information was integrated with the interview data and appears in subsequent sections of this report.

General reactions – The information obtained reflected a significant general concern on the part of University teaching faculty members for building relevancy and motivational elements into their courses. In other words, many instructors expressed concern for dealing with students as *individuals*, even though they also considered mass education at the university level to be an unavoidable situation and, at the same time, an extremely frustrating and largely unsolved problem.

As might be expected, interest in the actual tasks of instructional design varied from instructor to instructor. Some staff members were vitally concerned with the potential of course design while others were more absorbed in their own subject areas and, as a result, seemed less sensitive to design problems and related student reactions.

One graduate student interviewer described as follows his impressions after interviewing a series of faculty members in one department:

> *Most of my interviewees were at least "slightly" more interested in the "research" function of their positions than in the "teaching" function. They seemed to take instructorship as a responsibility to be expedited in the easiest manner consistent with established University procedures, and with minimum interference to their interactions with other faculty and graduate researchers and to their work on projects of personal interest . . . Those who* **did** *attempt innovations told of great frustration in trying to* **implement** *their innovations.*

Another student interviewer reported the following problems during interviews in his department:

> *I had some trouble obtaining responses that specifically applied to the aims of the survey questions. All those interviewed thought or implied in their statements that what applies to courses in the _____ Department might not be applicable in other situations. . . . Others offered a wide range of "how I'd like to see things done," but not much about what they were doing now or had done in the recent past that was either especially effective or innovative.*

It is possible, of course, that a somewhat altered survey instrument or interview technique might have eliminated some of these problems and consequently produced different results, or at least that it might have provided greater ease of administration. Among interviewers' suggestions for changes both in survey procedures and on the interview form itself were the following: (1) clearer indications, in all correspondence with faculty members, of exactly what type of information was desired, (2) provision of specific definitions for terms such as "exemplary" and "innovation," and (3) provision of sufficient latitude to allow respondents to tailor their remarks for specific "fields" (i.e., *social* psychology, *physical* chemistry, *geo*physics) or particular academic levels (i.e., lower division, upper division,

graduate), rather than requiring them to gear their comments only to single specific courses.

Organization of data – The descriptive type of information desired in the survey could not be gathered adequately by either short-answer responses or by choices from among pre-constructed responses (either of which would have facilitated the data reporting and analysis process). In an effort to maximize the usefulness of the rather bulky amount of survey material obtained, however, it was decided to apply a limited categorization scheme to enable the reader to quickly scan the results. By this means, it was hoped that solutions to particular instructional problems that the reader might see as being most important to his current individual teaching situation might be more easily found.

Accordingly, two major categories were devised. The first major category of exemplary practices deals with *in-class* learning materials and activities. Within this grouping, 15 sub-categories were devised. The second major category, learning experiences provided largely *outside the classroom*, includes three sub-categories. Of course, not all instructor responses fitted neatly into only a single category. Therefore, a few instructors' names and various facets of their course techniques are discussed in more than one place. In most cases, however, an attempt was made to identify the single most salient feature of an instructor's classroom practices and to discuss this feature under the appropriate category.

EXEMPLARY PRACTICES INVOLVING IN-CLASS LEARNING MATERIALS AND ACTIVITIES

DISCUSSION TECHNIQUES

Effective discussion techniques can range from simple to relatively involved and can be used to achieve varying instructional objectives. Douglas Trank and Michael Siegel, in sections of Speech 101 (Fundamentals of Speaking and Listening) use small group discussions to involve students in significant local and national issues. As a result of the discussions, students typically pursue special interest problems in completing course speaking requirements.

Alexander Sutulov encourages regular study habits by using at least fifty percent of class time for discussing previous assignments and future problems in Mineral Engineering 791 (Selected Topics in Metallurgy). David Mickelsen uses a similar approach in English 182 (Critical Introduction to Literature), 302 (Advanced Expository Writing), and 566 (World Literature). He elicits responses from reticent students by posing provocative questions, obtaining counter responses to student statements, and calling students by name.

In ses of ten to fifteen students in Social Work 626-627-628 (Community Organization I-II-III), Daniel Balsam operates in the role of group leader in creating a give-and-take learning situation where all are considered peers. In this open participation atmosphere, students challenge the instructor's ideas and appear to prepare more thoroughly for classes.

Several Psychology Department faculty members incorporate discussion techniques in their class procedures. For example, Martin Chemers, in Psychology 541 (Advanced Social Psychology), regularly assigns discussion topics, conducts group discussions during every class meeting, and allots one-third of the student's grade to his discussion participation. Chemers believes group discussion to be the best vehicle for developing creative thinking; it generates "ego involvement" among students and develops the student's capability for critiquing relevant research.

Raymond Kesner assigns one student per weekly two-hour class period to lead a discussion on specified materials in Psychology 777 (Seminar in Physiological Psychology). Kesner insures that such student-led discussions do not turn into student "presentations" by requiring everyone to prepare on all topics and by restricting discussions to about 100 pages per week of specifically assigned research reading.

Harold Nielson asks all students to prepare both "negative" and "affirmative" positions on major theoretical and methodological problems in Psychology 577 (Advanced Physiological Psychology). Two days before scheduled debates occur, Nielson assigns two students each to the pro and con positions.

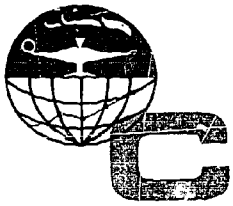
CASE STUDY APPROACHES

The use of case studies typically involves the identification for study of an individual, institution, community, or other type of unit. The case consists of the data relating to the specified unit, which is then examined by the student to determine existing status and causal factors.

Elden Facer uses the case study method extensively in Finance 621 (Advanced Managerial Finance) as a means of providing students with needed practice in decision making. Through case analysis, the student becomes acutely aware of the responsibilities of decision making and of the possi-

ble ramifications throughout an entire business of the decisions of top management.

In Psychology 340 (Psychology of Abnormal Behavior), James Alexander bases a substantial portion of each student's final grade on his work with authentic case studies. Twelve cases are assigned per quarter, for which the student must provide diagnosis, etiology, and treatment implications based on specific models or theories.



GRADING TECHNIQUES

Teachers at all levels are moving with increasing frequency to take the "mystery" out of the grading process. While it might be argued that the practice of giving grades at all (in the traditional sense) is questionable, techniques that allow the student to exercise options in determining his own grade are a step in the right direction. A number of such plans are in operation on the Utah campus.

Paul Porter bases student grades in Psychology 150 (Elementary Statistics) on accumulated points. Students know at the first meeting of the course the number of points necessary for each letter grade. They can earn points in a variety of ways including the quality and promptness of homework assignments, make-up problems, and examinations.

Bruce Haley allows students complete freedom to determine ways in which to earn grades in English 535 (Development of the English Novel) and 573 (Victorian Prose). They can take short exams periodically, write one or more papers, take the mid-term and/or final exam, or base their entire grade on their participation in class discussions throughout the quarter. Students are then graded on whichever activities they choose, and are not required to notify the instructor in advance concerning their choices for the quarter. In English 307 (Advanced Expository Writing), Haley uses student conferences for reading compositions. Instead of grading the weekly papers by writing corrections on them, students meet individually with the instructor. At these sessions, Haley reads each paper aloud to the student, commenting and criticizing as he reads, and ending with an overall assessment. The paper is later reread, graded, and returned to the student at a subsequent class period.

In English 507 (Eminent American Writers), Milton Voigt also allows students to choose the method by which they will be graded. They may keep a "journal" on their reactions to the works of a given writer, do several short papers, or take the mid-term and final exam.

In English 325 (Introduction to Shakespeare), Lori Clarke does not limit student work to long research papers, but rather encourages students to produce examples of Shakespearean dress or cooking, act or read plays, report a critic's point of view on a play, arrange for a performance of Renaissance music, or other less-traditional class activities. The result has been increased student imagination and participation in class sessions.

Other grading techniques of interest include Lawrence Milbourn's method of "burying" the letter grade on papers in English 111 (Written Composition) in the middle of the comments paragraph at the end of the paper. Through this technique, students read the instructor's evaluative comments instead of looking just for the letter grade, and they come to see the potential of such comments for individual writing improvement. Milbourn begins his evaluation of each paper with a discussion of the positive aspects of the student's work and makes a practice of citing specific paragraphs to support generalizations.

MASTERY LEARNING

The mastery approach to learning assumes that students do not go on to new concepts or skills until they have achieved a specified level of achievement in each preceding block of work. It also assumes, given flexibility in time requirements and in the amount and type of available learning materials, activities, and instructor help, that all students in a particular course could achieve "mastery" or "A" grades.

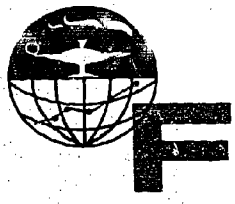
By using "personalized" instructional techniques, elements of the mastery view of learning are being introduced by David Born in Psychology 105 (Introductory Psychology). Successful test performance on each unit must be achieved before moving on to new material. If the student is not successful initially, he must re-study and take an alternate form of the test. Other instructors using similarly structured testing policies include Donald Hartmann and Ron Sommerville in Psychology 331 (Introduction to Psychological Tests and Measurement), David Dodd in Psychology 550 (Intermediate Inferential Statistics), and LaMond Beatty in Educational Administration 512 (Introduction to Educational Media).

Harold Moore, Ann Parsons, and Lois Graham are among English Department staff members using a rewrite policy for student compositions. In some cases, papers must be rewritten until an "A" or "B" is achieved. In other cases, papers may be rewritten once only, with the higher of the two grades being the one finally recorded. Courses involved include English 111 (Written Composition), 182 (Critical Introduction to Literature), 501 (Writing Fiction), and 537 (The Short Novel).

The achievement of mastery is emphasized by Gordon Jacox in Accounting 121 (Elementary Accounting) through the use of reverse behavioral chaining. Students are asked to work problems backwards after completing them forwards, the idea being that if students cannot understand a particular accounting procedure in reverse order, they probably do not have true mastery of it in its normal order.

ROLE PLAYING

The technique of "role playing" is designed to assist the student in developing in the emotional, intellectual, and practical areas that will promote easier adjustment to specific new (to him) situations. Rex Skidmore, Dean Hepworth, and Garth Mecham find role playing of particular value in courses such as Social Work 606-607 and 656-657 (Social Welfare Policy and Services I-II-III-IV), 616-617-618 and 666-667-668 (Casework I-II-III-IV-V-VI), and 773 (Administration of Social Work). Role playing of typical family situations and simulated "incidents" in class are used as a basis for student discussions that promote application of theory to in-life problems.



INSTRUCTIONAL GAMES

The idea of using learning games to assist students in developing specified skills or in achieving particular objectives is receiving increasing attention among educators nationally. On the Utah campus, Elden Facer uses the "Carnegie Tech Management Game" in Finance 621 (Advanced Managerial Finance). Facer believes games that relate theory to the "real" world are particularly important as teaching devices in academic areas such as business and management.

EMPHASIS ON PRACTICAL APPLICATIONS OF SUBJECT MATTER

Efforts to build relevancy into academic subject matter can be seen in a number of courses. Alex Oblad limits the amount of historical content used and focuses instead on new unpublished materials on pollution, detergents, and catalysts in Mineral Engineering 642 (Fuels Processing) and 659 (Special Topics in Fuels Engineering). In the laboratory phase of Mineral Engineering 568 (Mineral Processing II), Ronald Atwood structures experiments to reflect genuine industrial applications rather than strictly academic content.

In the Speech Department, Dennis Alexander and Anne Showell focus on real-life examples of communication, including current and practical problems related to communication barriers and breakdowns. Mixed media presentations are used, with students developing videotapes. Courses involved include Speech 101 (Fundamentals of Speaking and Listening), 111 (Communication Process), 511 (Communication and the Campaign), and 518 (Human Sign-Symbol Behavior).

Jerry Jorgensen, in Finance 120 (Management of Personal Finance), assigns practical projects which, when finished, provide each student with a portfolio of individualized financial information. Included are the preparation of personal budgets, programming of individual life insurance needs, computation of actual interest costs on personal loans and charge accounts, and preparation of income tax forms.

EXPERIMENTAL APPROACHES TO INSTRUCTIONAL IMPROVEMENT

In several departments on campus a number of carefully controlled studies are being conducted in an effort to develop, compare, and evaluate differing instructional approaches. The general goal of such studies is the production of data that offer highly specific guidance for the improvement of instruction and learning. Brief descriptions of three of these projects follow.

David Born, in Psychology 312 (Learning), compared traditional lecture-discussion instructional procedures with "personalized" instructional techniques. Students enrolled in the course were assigned to one of four sub-sections. One sub-section was taught by the lecture approach, two by similar versions of personalized instruction, and the fourth by a combination of procedures. Identical mid-terms and finals were administered to all students. Course grades based on total accumulated examination points ranged, in the lecture section, from A through F, while grades in the three experimental sections ranged from A through C. Thus, superior examination performance resulted from the personalized procedures even though students in those sections were deprived of the opportunity to attend daily lecture-discussion sessions.

In Psychology 123 (Psychology of Adolescence), Michael Davis divided students into three sections – the "personalized instruction" group, the "review test" group, and the "lecture" group. All groups were scheduled to take the same mid-term and final exams. Although the study was incomplete at the time the Exemplary Instructional Practices Survey was conducted, Davis anticipated comparing the effectiveness of the three instructional approaches by preparing indexes of test performance and completion level of assignments for students in each class section.

Asahel Woodruff and Philip Kapfer are involved full-time in the Pilot Experimental Program in Teacher Education based on the "Life-Internship Model" of learning. Others assisting part-time in the materials development, liaison, and evaluation aspects of the program are Jon Davis, Walter McPhie, Jan Dickson, and Roger Croft. Instead of taking the traditional two-quarter professional education sequence of courses, students enrolled in the program substitute extensive student teaching experience, weekly workshops on instructional strategy, and development of life-internship curricular materials for use in public school classrooms. The four principal curricular vehicles used in the life-internship program are (1) Ventures, (2) Decision-Making Projects, (3) Decision-Execution Projects, and (4) Self-Increment Learning Units. Funded for continuation during the 1971-72 year, the project has shown encouraging preliminary results including above average teaching performance on the part of teacher trainees as well as curricular materials with high motivational appeal among public school students.

TEACHER-PREPARED LEARNING MATERIALS

Many of the Utah faculty find it useful to prepare and make available to their classes highly specific student learning materials in given areas. Such materials are typically used to supplement or partially replace textbooks or other commercially available materials and are designed to meet the unique needs of individual students or class sections.

LaMond Beatty has prepared a complete audiovisual program for students enrolled in Educational Administration 512 (Introduction to Educational Media). The organization of the course permits individual student self-pacing, a reduction in time spent in lecture situations, and greatly increased opportunities for students to obtain practical experience with audiovisual equipment.

Ramon Johnson has written a concise learning aid titled "Understanding Statistical Sampling Distributions" for students in Accounting 139 (Quantitative Analysis II) and 639 (Survey of Quantitative Analysis).

In Special Education 542 (Education of Children with Behavior Disorders) and 671 (Seminar–Current Topics in Special Education), Anthony LaPray has developed materials and designed student tasks that facilitate student achievement of specified behavioral objectives.

Joel Naumann has compiled a set of singing exercise materials and vocal examples for use in Music 156-157-158 (Harmony, Sight-singing and Dictation) that support an approach to sight-singing based on the structure of scales rather than on interval sizes.

In Architecture 331 (Statics and Strength of Materials), Edward Smith has written self-instructional modules that present specific concepts through the use of an interactive computer terminal.

Carl Durney has designed a learning system for Electrical Engineering 351 (Electromagnetic Fields). Included in the self-paced, mastery-oriented system are learning objectives, a listing of major problems, study guides, and quizzes.

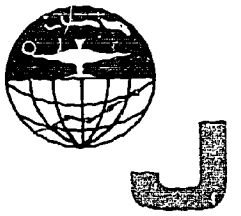
Ralph Hathaway has recorded significant topics from the lecture portions of Biology 311 (Elementary Biochemistry). The recorded lectures are available to students by means of the Dial Access System or on cassettes in the Reserve Reading Department of Marriott Library. Nomma Randall also utilizes the Dial Access System as an anecdotal method of providing materials and concepts for classes in public health. Randall's materials include a set of five tapes titled "Human Growth and Development in the Social Setting."

Bowman Hawkes and Keith Engar utilize instructor-prepared videotapes for classes in geography and theatre production respectively. Individuals and small groups use the tapes for review of key concepts in course materials.

Warren Ketcham and Wesley Bentrude, from the Departments of Meteorology and Chemistry respectively, have their lecture notes duplicated for distribution to students in advance of lecturing on given topics. As a result, students can concentrate during class on the instructor's explanations and comments rather than at the same time also having to copy complex lecture illustrations from the chalkboard.

Thomas Malloy distributes an outline of each lecture topic to students in Psychology 150 (Elementary Statistics). His purpose is to make student notetaking more efficient and productive by increasing communication with students during lectures. The outline includes major conceptual breaks identified by appropriate headings, titles, and examples. Space is allowed for students to fill in additional information obtained as a result of hearing lectures and reading text assignments.

A similar technique is used by Bruce Kirchhoff in Accounting 129 (Quantitative Analysis). Students are provided with a detailed outline of the structure of the course on a topical and daily basis, including a schedule of homework assignments and testing dates and topics.



TEAM TEACHING

The term "team teaching" is used to cover teaching arrangements whereby more than one person has responsibility for providing learning experiences in a given course. Such arrangements can vary greatly, of course, particularly in the degree of joint planning engaged in by team members. Douglas Matthews, for example, divides the content of Finance 120 (Management of Personal Finance) into major interest areas and arranges for instructors who are specialists in areas such as budgeting, consumer borrowing, saving accounts, life and family insurance, social security, income taxes, and investments. Thus, students have the benefit of instructor expertise in each separate facet of the course.

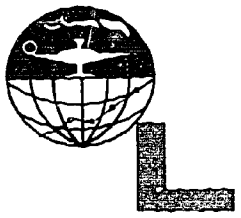
LEARNING TEAMS

The concept of a small group of students working together as a team to assist each other in achieving particular learning objectives is receiving increasing favor as an alternative to the "lone learner" view of education. Gary Gregor asks students in Psychology 341 (Introduction to Social Psychology) to form small groups to solve problems in essay questions. Groups divide within themselves the responsibility for particular questions, with all the members of each group receiving the same grade. Thus, competition among teams results rather than among individuals.

Lori Clarke gives "group tests" that are written in class by teams of students working together. Such tests, in English 325 (Introduction to Shakespeare), contain broad questions centering on several Shakespeare plays at a time.

James Mayfield teams students in groups of two for study of each of the four units of work that comprise Political Science 163 (Introduction to the Middle East). Students have to get permission from their partners to take the oral exams that follow each of the units.

In the pilot "honors tutorials" phase of the University of Utah Honors Program, Richard Cummings employs senior students to supervise groups of three to five sophomores each. Each tutorial team deals intensively with a subject area in which the senior is especially qualified and in which he has the close counsel of a University professor.



DEVELOPING THE STUDENT'S EVALUATION SKILLS

One type of evidence of a student's developing intellectual maturity is his ability to accurately evaluate both his own work and that of his peers. Ardean Watts provides opportunities for students to develop their self-evaluation skills in Music 350 (Opera Workshop) by requiring them to prepare written criticisms of the musical performances of all of the individuals in the course. These critical evaluations constitute a grading factor both for the writers and the recipients, as well as helping students to focus their attention during class by applying theoretical knowledge to performance situations.

In English 101 (Written Composition), Barbara Eggli "pairs" students for writing in-class paragraphs on the same topic. Subsequently, while comparing possibly varying approaches to the identified topic, each student criticizes his partner's writing style and, as a result, becomes aware of his own typical writing faults by means of peer rather than teacher perspectives. In both English 101 and 111 (Written Composition), Georgia Knight encourages students to develop the feeling of a "second self that looks critically over the writer's shoulder." This shift involves responsibility for all aspects of writing including subject evaluation, treatment analysis, and proofreading.

Michael Siegel helps students develop evaluation skills by videotaping student speeches in Speech 101 (Fundamentals of Speaking and Listening). Through the process of viewing their own speaking behaviors, students learn to express differing viewpoints in constructive ways.

LeGrand Anderson periodically videotapes each student's individual singing performance in vocal music classes as a means of focusing attention on facial expression and related tone production. Replaying the videotaped excerpts provides the student with reference points for measuring his progress.

In Mineral Engineering 353 (Microstructural Mineral Analysis), Keith Prisbrey asks each student to write two quizzes that the rest of the class will take. In preparing the quizzes, students must evaluate the course material to determine that which is worth using as a measure of student achievement. Prisbrey believes that this procedure requires students to develop a thorough knowledge of course content and that it eliminates the attitude of tests being guessing games.

Lawrence Milbourn, in English 145 (Introduction to Imaginative Writing), asks students to comment on other students' creative pieces (poems, plays, etc.) on mimeographed copies distributed to members of the class. These evaluative comments, together with instructor conferences,

constitute the only "grades" given until the final course grade. According to Milbourn, the use of specific comments rather than actual grades along the way "removes the blocking threat" and stimulates students' self-evaluation such that creative writing increases both in quality and quantity.

The preparation of evaluative journals is being used in a number of literature classes in place of the more traditional short essays. In English 145 (Introduction to Imaginative Writing) and 568 (Studies in Contemporary Literature), John Vernon asks students to react to their weekly reading assignments by recording their impressions of the readings in a journal. A long paper is the usual outcome of these "intellectual recordings." Milton Voight, in English 507 (Eminent American Writers), also uses the journal method of prompting students to make evaluative reactions to assigned readings.

More discerning evaluation of oral-aural skills is the focus of Allyson Beecher's instructional approach in Speech 103 (Voice and Diction). Students are taught to sense the actual "feeling" of a word through physical impressions including a method of "chewing" words to bring students to their optimum pitch levels.

STRUCTURING STUDENT CREATIVITY

A number of instructors who participated in the survey are supplying highly specific structure for selected in-class activities of their students. The amount and type of structure provided are typically geared to particular learning objectives such as, for example, creativity. Jan Miller is attempting to structure student creativity in Mineral Engineering 568 (Mineral Processing II) by using hypothetical systems of mineral dressing and ore smelting. Students are then required to explain the systems by drawing on past knowledge of real systems. The technique has been useful in achieving 100 percent student participation in class discussions that employ original thinking.

Blanche Cannon structures creativity in English 145 (Introduction to Imaginative Writing) by requiring *in-class* writing of poems, plays, stories, and mood pieces. "Stimulators" such as abstract paintings, newspaper descriptions, and haphazard arrangements of specific items in the classroom are used for the "pressured writing." Students develop the in-class stories or mood pieces further in subsequent out-of-class rewriting. Both the quality and quantity of imaginative work have increased as a result of using this method.

MOTIVATION TECHNIQUES

Many of the approaches and techniques discussed in the preceding sections contain significant potential for increasing student motivation and involvement. A number of other specific examples of attempts to insure greater relevancy and meaning are described below.

Ronald Ragsdale uses a telephone answering service in Chemistry 111-112 (General Chemistry) that encourages student feedback concerning problem areas. Questions submitted by students are answered during the following lecture period. The technique permits anonymity for the caller and therefore motivates even the shy student or the student who fears admitting his misunderstandings to maintain active involvement in the class.

In Education 518 (Mathematics in the Elementary School), offered through Correspondence Study, Stanley Jencks supplements written reactions to student work with commentary recorded on cassettes or regular audio tapes. This practice has important motivational effects because it encourages more personal and open student-instructor interaction than is possible with traditional paper-pencil correspondence course procedures.

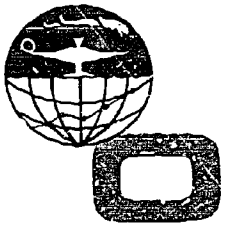
Billy White motivates students in Psychology 105 (Introductory Psychology) by assigning pre-exam problems that students must research and for which they must prepare individual solutions. The assigned problems are purposely ambiguous in the sense that there are no "right" answers. Thus, White emphasizes the use of unique personal experiences as a basis for the organization of knowledge in given areas.

Active student participation in course structure and content is employed as a motivation device in several departments on campus. Laverne Bane requires students in Speech 522 (Group Dynamics and Conference Leadership) to design and develop some of their own learning experiences rather than relying on the instructor totally for guidance and content. In Speech 772 (Seminar on Communicative Problems), Richard Rieke emphasizes student decision-making and personal involvement with course issues. Philip Chinn motivates students in Special Education 513 (Curriculum Development—Educable Mentally Retarded—Secondary School Level) in a similar fashion to the extent that the methods of meeting course objectives are student controlled. Students arrange for speakers and develop individual projects in consultation with the instructor. Helen Folland and John Mitcheltree, in Music 365 (Masterpieces

in Music Literature) and 357 (Harmony II), ask each student to make a detailed study of the harmonic style of a composer or work of his choice and to present the study to the class as a lesson. In Psychology 307 (Psychology and Social Issues), David Raskin capitalizes on the intrinsic motivation of current social issues by requiring student presentations on selected topics. Grant Bitter and James McLoughlin use student directed "inductive investigation" in Special Education 502 (Introduction to Special Education), 511 (Basic Communication Skills in Exceptional Children), and 755 (Principles and Procedures of Remediation). Students are exposed to a variety of models and materials related to learning problems and remediation. Students then act as resource agents in presenting course information to each other.

The motivational techniques of several faculty members in the English Department are of interest. Philip Sullivan, in 548 (Mythology and Modern American Literature), 574 (Methods of Teaching English in the Secondary School), and 576 (Literature and Composition in the Secondary School), asks students to find their *own* reactions in terms of their personal experiences to literature of different periods (rather than using the more traditional procedure of explicating the authors' "meanings"). In 101 and 111 (Written Composition), Shru Smith involves students in determining and developing possible writing topics prior to the actual assignment and writing of themes. Victor Watson uses films and other visual materials to heighten belief and sensitivity prior to making writing assignments in 112 (Written Composition). Ronald Carlson accomplishes the same purpose in 101 by beginning each class period with well-known lines from lyrics and movies to illustrate the grammar and syntax problems currently being studied. In 115 (Introduction to Literature), Carlson initially introduces general education students to the study of film literature, not by viewing films, but instead by asking students to perform various physical and mental exercises, individually and together, such as casting the eye as one would the camera, "framing" scenes with the hands, producing different "angles" on a scene, and the like. Also in 115, Thomas Sobchack uses "Letters to the Prof" and "Big Questions" as motivational devices. The "Letters" involve written student commentary on specific readings. Sobchack's "Big Questions" are given to students in advance of class meetings, and require oral responses from students at the opening of each class session.

Ray Canning and Irwin Altman, in Sociology 745 (Seminar in Current Social Problems) and Psychology 589 (Distinguished Visiting Scholar Seminar Series), invite nationally significant theoreticians and researchers in their respective fields to make presentations on the Utah campus. Specially structured student participation in pre- and post-lecture activities often results in increased student motivation toward doing research or in-depth study of topics of particular individual interest.



MULTIMEDIA APPROACHES

A number of courses reported in the survey are characterized by a variety of teaching-learning methods and materials rather than by single or characteristic instructional modes. Most of the courses exhibiting variety involve in-class media and methods, but a few also incorporate out-of-class activities.

In the English Department, William Mulder uses course overviews, small and large group instruction, research papers, creative writing projects, and in-depth study questions in upper division and graduate literature courses. In English 101 (Written Composition), Roger Ekins promotes confrontation during class discussions by seating students in two rows of chairs three feet apart. Ekins also uses "sensitivity" activities and peer grading of papers.

In the Department of Finance, Stephen Nadauld uses guest speakers, visual displays, the Socratic approach to class discussions, and an open house once each quarter for students in Finance 120 (Management of Personal Finance) and 321 (Business Finance). Field trips, guest speakers, course syllabuses, and term papers are used by Fikry Gahin in Finance 324 (Risk and Insurance), 325 (Life and Health Insurance), and 326 (Property and Life Insurance).

Ferron Olson, in Mineral Engineering 101 (Metals in the Modern World) and 146 (Introduction to Fuels Engineering), makes extensive use of visual aids including molecular models. Olson also incorporates class demonstrations, field trips, and authoritative visiting lecturers from industry.

Courses in the Department of Psychology taught by Donna Gelfand, Donald Hartmann, David Raskin, Raymond Kesner, Charles Turner, and Michael O'Neill include varied approaches such as "probes" to focus attention during lectures, student time cards, syllabuses, testing demonstrations, study questions, films, periodic quizzes, term papers, applied work in community agencies, guest lecturers, class discussions, and use of audiovisual equipment such as the overhead projector.

In several courses in the Department of Social Work, Margaret Johnson assigns students to community agencies and projects for practical experience in bringing about social change. She sometimes replaces traditional exams with movies (of slum conditions, for example), after which students write in-class papers focused on the filmed material. The tape recorder is being used in preparing evaluations of written student assignments.

In courses in Special Education, LaDawn Keith and James McLoughlin utilize a variety of activities including

text assignments, field trips, films, guest speakers, interaction with handicapped persons, class discussions, deductive approaches, inductive approaches, research, and exploration of a number of special education models.

Courses in the Speech Department taught by Rey Barnes and David Williams include techniques such as student project work with film making, course lectures presented on videotapes and cassettes, and restructuring of class syllabuses and time periods to allow for longer but fewer class meetings during the quarter.

II EXEMPLARY PRACTICES INVOLVING LEARNING EXPERIENCES PROVIDED OUTSIDE THE CLASSROOM

Courses reported in the survey that focus exclusively on or contain significant emphasis on the development of research skills, "immersion" techniques, or field work experiences are discussed in this section. Although the techniques used in these courses can often be applied both in in-class and out-of-class situations, the stress is usually on independent or out-of-class work.

A DEVELOPING THE STUDENT'S RESEARCH SKILLS

In Social Work 636 (Social Research) and 697 (Research Practicum), LeGrande Magleby and William McPhee require one "mini-thesis" per quarter of first-year graduate students. The thesis can be done on an independent or group basis and is limited to ten pages. The purpose is to teach basic research skills, encourage critical thinking among students, and provide opportunities for doing research that is both enjoyable and useful.

Victor Cline, Richard Smith, and Roger Schultz structure Psychology 160-161 (Introductory Experimental Psychology I-II) so that the textbook and final exam over textual material are completed during the first two weeks of the quarter. Subsequently, students form research teams, choose a research topic dealing with human behavior, review the relevant literature, prepare a proposal, collect and analyze data, and report the results. The important factor is that students are actually doing research rather than just reading about it. Sixty percent of the student's course grade is based on the quality of his research or laboratory activities.

In Mineral Engineering 392 (Senior Thesis), Guy Elliott uses seniors as apprentice researchers to produce genuine thermodynamic data that is later published. With adequate preparation and supervision, the program produces both useful research results and trained researchers.

David Jabusch uses the inquiry method in Speech 551 (The Teaching of Speech in the Secondary School) and 552 (The Direction of Speech Activities). Speech and teaching problems are covered in sequence with students doing the library or practical research necessary to solve the problems.

An understanding of library research skills is the goal of the final exam in English 112 (Written Composition), taught by Jeraldine Parker. For the final, students are asked to discuss the problems and solutions they encountered while doing their own research investigations during the quarter. This process allows students to relate and review both the processes and products of their research activities.

Special Education 671 (Seminar—Current Topics in Special Education) is currently being used by Don Logan as an introduction to educational research for special education students. Course content consists of the principles of research, the use of statistics, awareness of the research process, preparation by students of research projects, and presentation of the project designs to the class for review and analysis by group members.

B "IMMERSION" TECHNIQUES

In Psychology 307 (Psychology and Social Issues), Richard Smith divides the class into four groups that focus on four disparate life styles (e.g., strict LDS, hard-hippie, John Bircher, and politically aggressive Black). Students in each group become immersed in a selected life style by identifying and reading descriptive materials, arranging for a sophomore from that life style to speak to the class, and arranging a field trip to the natural environment of each sub-group being studied. Smith concentrates on helping students (1) understand how such sub-groups within society maintain their distinguishing behaviors and (2) learn to respect the consistency of the systems they study.

During Autumn Quarter 1970, students who enrolled in an experimental course, Political Science 391 (Practical Politics), experienced the inner workings of politics in Utah during an election campaign. Directed by J. D. Williams and A. J. Wann, the course served as a means of providing students with sufficient theory to make partisan political participation a reality. Students took part in class discussions, observed films, attended lectures by prominent politicians, actively campaigned for candidates of their own choice, contacted voters in their respective voting districts concerning the amendment and referendum propositions on the ballot, conducted voter registration campaigns, discussed current issues on a door-to-door basis, and prepared complete profiles of their voting districts.

Beginning Autumn Quarter 1971, a new feature titled the Intensive Honors Quarter (IHQ) will be integrated on a pilot basis into the regular Honors Program. Directed by Richard Cummings, the IHQ will take the form of a carefully coordinated and individualized quarter of intensive inquiry into an appropriate problem of major concern to the student, without the usual constraints imposed by conventional course work. The student will receive 15 hours of credit for an experience of "total immersion" in the various aspects of the central problem. The student's IHQ activities will culminate in a written statement or summary.

By enrolling in English 399 (Individual Study), a student majoring in English is currently reading and discussing with faculty members materials centered on river life in 19th century America, including literature, history, and intellectual milieu. The individualized study program is being coordinated by Edward Leuders, with assistance from instructors in History and American Studies. The student's on-campus study will be followed by a two-week trip down the Mississippi River on the "Delta Queen" as a means of experiencing in an authentic manner the color and locale used by selected American writers.

FIELD WORK

Among the departments in which the survey revealed greatest use of field work were Psychology, Special Education, and Social Work. In the Psychology Department, Stewart Proctor places student volunteers in several community agencies including the Help Line, Drug Crisis Center, Behavior Modification Center, Human Resources Center, and VA Hospital. Students keep a log of exactly what they do in each field situation, with the amount and type of supervision varying according to the circumstances. In Psychology Practicum Supervision, Donna Gelfand, Donald Hartmann, and Steven Zlutnick are currently field training various individuals in behavior modification techniques. Trainees include psychiatric residents, clinical practicum students, selected undergraduates, and foster grandparents. Sidney Gelfand supervises undergraduate volunteer training at the VA Hospital in an atmosphere in which trainees learn to be professionally responsible for patients on given wards. Emphasis is placed on research and data compilation as well as on applied work.

In Social Work 622 (Social Group Work II) and 697 (Research Practicum), Luis Medina and Henry Selin encourage students working in field situations with minority groups or in state institutions to set their own goals, work at their own best paces, and become as self-directing as sible. Content is not stressed as much as personal response to the needs of particular individuals or community groups.

James McLoughlin, in Special Education 502 (Introduction to Special Education), exposes students to the world of exceptional youngsters so that course participants can find out whether they would like to work with such children on a career basis. Through field experience with children of varied exceptionalities, as well as study of published research on exceptional children, the individual arrives at his own perceptions of the field. Student experiences include both the cognitive and affective realms. In Special Education 640 (Education of Children with Learning Disabilities), McLoughlin gives students practical experience in administering 12 diagnostic instruments to youngsters with learning disabilities. Skills in administration are emphasized along with skills in analyzing the results of the tests.

Bowman Hawkes is currently experimenting with two new types of field trip procedures for geography courses. The first approach involves providing a recorder and a series of cassettes to a student or group of students, who then drive on their own time along prescribed routes. Taped instructional narrative cues students to locations and phenomena for observation and analysis. The second approach involves aerial field trips. With a recorder, a cassette, and a set of earphones for each student, three students at a time will fly with a pilot who is very familiar with the objectives and observation points of a given field trip. These techniques offer the possibility of extending field experiences to many more students without increasing the load of the instructional staff, except for the required orientation, preparation of tapes, and evaluation associated with the trips.

PROJECT FOLLOW-UP

It should be noted that the preceding sections contain only a *sample* of the exemplary teaching practices currently being used on the University of Utah campus, and that additional information is available concerning each of the examples mentioned. Although a wide range of interesting and useful instructional techniques have been described, it is evident that the survey did not pick up information from all departments or faculty members on campus. Those who did not participate during the 1970-71 data gathering procedures, but who would like to share information in the future, are invited to telephone the Center (6401) so that follow-ups can be conducted. Such cooperative action, besides providing greater input for future dissemination efforts by the Center, can serve as a continuing basis for contacts for multi-disciplinary projects, for proposals for outside funding, and for inside arrangements to adopt, adapt, or operationalize certain experimental ventures that exhibit significant quality, diversity, or economy.